

No.

9800064



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Pioneer Hi-Bred International, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREBY ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON THE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW, NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE ANNUAL FEES AND PERIODIC REPLENISHMENT OF VIABLE SEED OF THE VARIETY IN A PUBLIC REPOSITORY, PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN MAKING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (34 STAT. 154, AS AMENDED, 7 U.S.C. 321 ET SEQ.)

SOYBEAN

'92B72'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-eighth day of April, in the year of our Lord two thousand.

Attest:

*Ann Marie Throckmorton*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Ann Marie Throckmorton*

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)  Pioneer Hi-Bred International, Inc.		EXPERIMENTAL NUMBER  92B72	3. VARIETY NAME  92B72
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  7100 NW 62nd Ave P.O. Box 1000 Johnston, Iowa 50131-1000		5. TELEPHONE (include area code)  515-270-3582  (include area code)  515-253-2288	FOR OFFICIAL USE ONLY PVPO NUMBER  9800064 FILING DATE  2 Jan 98 FILING AND EXAMINATION FEE: \$ 2450.00 DATE  12/29/97 CERTIFICATION FEE: \$ DATE
7. GENUS AND SPECIES NAME  Glycine max L.	8. FAMILY NAME (Botanical)  Leguminosae		
9. CROP KIND NAME (Common name)  Soybean			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)  Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION  Iowa		12. DATE OF INCORPORATION  May 6, 1926	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS  John Grace 7300 NW 62nd Ave. P.O. Box 1004 Johnston, Iowa 50131-1004  Jean Bromert (Copy) 7100 NW 62nd Ave. P.O. Box 1000 Johnston, Iowa 50131-1000			(include area code)  515-270-3582  (include area code)  515-253-2288
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
<p>a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety</p> <p>b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness</p> <p>c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety</p> <p>d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety</p> <p>e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership</p> <p>f. <input checked="" type="checkbox"/> Voucher Sample (2,600 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)</p> <p>g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2450), made payable to "Treasurer of the United States" (Mail to PVPO)</p>			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED (See Section 83(a) of the Plant Variety Protection Act)? <input type="checkbox"/> YES If "yes," answer items 18 and 19 below <input checked="" type="checkbox"/> NO If "no," go to item (20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES (If "yes," give names of countries and dates) <input type="checkbox"/> NO U.S. - 1997 April 24, 1997 JLS November 1999			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate  The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s))  D. John Grace III		SIGNATURE OF APPLICANT (Owner(s))  Name (Please print or type)	
CAPACITY OR TITLE  Soybean Research Coordinator		CAPACITY OR TITLE  DATE 12/19/97	

**Exhibit A. Origin and Breeding History of the Variety** revised 11/98

**Soybean Variety 92B72**

Variety 92B72 evolved from a 1990 cross of Kenwood/(AX5152 X Kenwood). AX5152 evolved from the cross C1726/A1937NMU-173 where, C1726 is a Purdue University mutant germplasm line with 7% palmitic acid and A1937NMU-173 is an Iowa State University mutant line with 6% palmitic acid.

F1 seed from the crosses made in the spring of 1990 was sent to Iowa in the Summer of 1990. F2 seed was harvested from each individual F1 plant. F2 seeds were planted in Puerto Rico in the fall of 1990 and the population advanced to the F3 generation by modified single seed descent. F3 seed was planted in January 1991 and individual F3 plants were harvested and entered into first year yield tests in the summer of 1991. Subsequently, 92B72 has undergone five years of extensive testing and purification and has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants. On the basis of yield and fatty acid composition, variety 92B72 was released for sale.

The purification block was grown during summer of 1994 and 50 pounds of the sublines with the best fatty acid composition were bulked for increase. 0.5 acres of 92B72 (breeders seed) were grown in the summer of 1996.

**Exhibit B. Statement of Distinctness****Soybean Variety 92B72**

Variety 92B72 is most similar to 9281. Both are Maturity Group II varieties.

Variety 92B72 differs from 9281 in that 92B72 has a significantly lower palmitic acid content than 9281 (Table 1).

## Pioneer Hi-Bred Int'l Inc.

PVP Application - Exhibit B - Soybean Variety 92B72

Table 1. T-test comparison of 92B72 versus 9281 for per cent palmitic acid analysis for 1996.

YEAR	LOC	REP	9281 (X1)	92B72 (X2)	X1-X2	(X1-X2) <sup>2</sup>
--- per cent palmitic acid ---						
1996	359A	1	9.3	3.7	5.6	31.4
	805A	1	10.0	3.8	6.2	38.4
	346I	1	10.1	3.5	6.6	43.6
	976	1	10.0	3.6	6.4	41.0
	299G	1	10.4	3.9	6.5	42.3
	801D	1	9.8	3.6	6.2	38.4
	807A	1	10.6	3.8	6.8	46.2
SUM			70.2	25.9	44.3	281.3
MEAN			10.0	3.7	6.3 = d	
n =			7 groups of individuals			

## 1996 ANALYSIS

Ave 9281 =

Ave 92B72 =

d = (Ave X1 - Ave X2)

SE diff = SQRT of

SE diff =

t = d/SE diff =

df =

Prob &gt; t =

10.03 percent palmitic acid

3.70 percent palmitic acid

6.33

0.021

0.146

43.370

6

0.000000010 significant at &lt;1% level

Formula for Standard Error Calculations:

$$SE \text{ diff} = \sqrt{\frac{\sum (X1-X2)^2 - (\sum X1-X2)^2 / n}{(n)(n-1)}}$$

$$SE \text{ diff}_{95} = \sqrt{\frac{281.3 - ((44.3)^2 / 7)}{(7)(6)}}$$

1996 Standard Error Calculation:

$$SE \text{ diff}_{95} = \sqrt{\frac{281.3 - ((44.3)^2 / 7)}{(7)(6)}}$$

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SEED DIVISION - PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY

SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) <b>Pioneer Hi-Bred International, Inc.</b>	TEMPORARY DESIGNATION	VARIETY NAME <b>92B72</b>
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) <b>7300 N.W. 62nd Ave., P.O. Box 1004 Johnston, IA 50131-1004</b>		FOR OFFICIAL USE ONLY PVPO NUMBER <b>9800064</b>

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero on the first box when number is 9 or less (e.g.,   ). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



L



W



T

1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)

3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify)

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify)

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1 a)

2 = Type B (SP1 b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify)

## 11. LEAFLET SIZE:

1 = Small ('Amsoy 71'; 'A5312')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

3 = Large ('Crawford'; 'Tracy')

## 12. LEAF COLOR:

1 = Light Green ('Weber'; 'York')

2 = Medium Green ('Corsoy 79'; 'Braxton')

3 = Dark Green ('Gnome'; 'Tracy')

## ★ 13. FLOWER COLOR:

1 = White

2 = Purple

3 = White with purple throat

## ★ 14. POD COLOR:

1 = Tan

2 = Brown

3 = Black

## ★ 15. PLANT PUBESCENCE COLOR:

1 = Gray

2 = Brown (Tawny)

## 16. PLANT TYPES:

1 = Slender ('Essex'; 'Amsoy 71')

2 = Intermediate ('Amcor'; 'Braxton')

3 = Bushy ('Gnome'; 'Govan')

## ★ 17. PLANT HABIT:

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

## ★ 18. MATURITY GROUP:

 

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

## ★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

★ Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)★ Bacterial Blight (*Pseudomonas glycinea*)★ Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

★ Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojae*)★ 

Race 1

Race 2

Race 3

Race 4

Race 5

Other (Specify)

Target Spot (*Corynespora cassiicola*)Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)Powdery Mildew (*Microsphaera diffusa*)★ Brown Stem Rot (*Cephalosporium gregatum*)Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

## 19. DISEASES REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

## FUNGAL DISEASES: (Continued)

- ★  Pod and Stem Blight (*Diaporthe phaseolorum* var; *sojae*)
- Purple Seed Stain (*Cercospora kikuchii*)
- Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★  Race 1  Race 2  Race 3  Race 4  Race 5  Race 6  Race 7
- Race 8  Race 9  Other (Specify)

## VIRAL DISEASES:

- Bud Blight (Tobacco Ringspot Virus)
- Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★  Cowpea Mosaic (Cowpea Chlorotic Virus)
- Pod Mottle (Bean Pod Mottle Virus)
- ★  Seed Mottle (Soybean Mosaic Virus)

## NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★  Race 1  Race 2  Race 3  Race 4  Other (Specify)
- Lance Nematode (*Hoplolaimus Colombus*)
- ★  Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★  Northern Root Knot Nematode (*Meloidogyne Hapla*)
- Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- Reniform Nematode (*Rotylenchulus reniformis*)
- OTHER DISEASE NOT ON FORM (Specify)

## 20. PHYSIOLOGICAL RESPONSES: (ENTER 0 = Not tested, 1 = Susceptible, 2 = Resistant)

- ★  Iron Chlorosis on Calcareous Soil
- Other (Specify)

## 21. INSECT REACTION: (ENTER 0 = Not tested, 1 = Susceptible, 2 = Resistant)

- Mexican Bean Beetle (*Epilachna Varivestis*)
- Potato Leaf Hopper (*Empoasca fabae*)
- Other (Specify)

## 22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	9253	Seed Coat Luster	9281
Leaf Shape		Seed Size	9281
Leaf Color	9281	Seed shape	
Leaf Size	9243	Seedling Pigmentation	9281



Variety Name 92B72

## 23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY : Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEED	NO. SEEDS POD
				CM Width	CM Length	% Protein	% Oil		
Submitted 92B72	121.9	1.8	86.4			41.2	22.7	16	3
Name of Similar Variety 9281	122	1.4	78.2			41.0	23.6	16	3

## PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A2 in the USDA soybean germplasm collection. Crop. Sci., 13: 420-421
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1:1-19

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. Name Of Applicant(s)  Pioneer Hi-Bred International, Inc.	2. Temporary Designation Or Experimental Number	3. Variety Name  92B72
4. Address (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  7100 NW 62nd Ave P.O. Box 1000 Johnston, Iowa 50131-1000	5. Telephone (include area code)  515-270-3582	6. Fax (include area code)  515-253-2288
	7. PVPO Number  9800064	

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, Please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO  
If no, give name of country \_\_\_\_\_

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer the following:

a. If original rights to variety were owned by individual(s), Is (are) the original owner(s) a U.S. national(s)?  
☐ YES ☐ NO If no, give name of country \_\_\_\_\_

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?  
☐ YES ☐ NO If no, give name of country \_\_\_\_\_

11. Additional explanation on ownership (If needed, use reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.